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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/812,035 | 03/19/2001 | Satoshi Murata | 1324.65321 | 9348 |

7590

02/26/2003

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| EXAMINER |
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KENNEDY, JENNIFER M

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| ART UNIT | PAPER NUMBER |
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2812

DATE MAILED: 02/26/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/812,035

Applicant(s)

MURATA ET AL.

Examiner

Jennifer M. Kennedy

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 March 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 March 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1,3-4, and 6 are rejected under 35 U.S.C. 102(b) as being anticipated by Ishihara et al. (U.S. Patent No. 5,263,888).

Ishihara et al. discloses the method for manufacturing a liquid crystal display having liquid crystals between two substrates, the method comprising the steps of:

dispensing liquid crystals on one substrate (see column 4, lines 33-34);

combining the substrate with and opposite substrate in vacuum with the liquid crystal dispensing surface thereof facing the opposite substrate (see columns 4, line 40-53); and

restoring the atmospheric pressure after the combining step (see column 4, line 55-66);

wherein the dispensing step has a predicting step which predicts an optimum quantity of liquid crystals encapsulated between the two substrates to be combined on the state of the substrate on which the liquid crystals are dispensed and controls the quantity of dispensed liquid crystals based on the predicted value, the substrate being on the substrate stage (8) during said predicting step (see column 3, lines 40-45, column 5, line 40 through column 6, line 15).

Ishihara et al. also discloses the method wherein the optimum quantity of liquid crystals is predicted by measuring the dispersing density of spherical particles dispersed to determine the cell thickness between the two substrates (see column 4, line 25-30, column 5, line 55 through column 6, line 15).

Ishihara et al. also discloses the method wherein the prediction of the optimum quantity of liquid crystals is carried out for each region where a panel is to be formed in the case of a multi-shot substrate (see column 4, lines 26-30)

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ishihara et al. (U.S. Patent No. 5,263,888) in view of Shohara et al. (U.S. Patent No. 6,238,754).

Ishihara et al. discloses the invention substantially as claimed and rejected above, but does not disclose the method wherein optimum quantity of liquid crystals is predicted by measuring the height of a columnar spacer provided to determine a cell thickness between the two substrates. Shohara et al. disclose the method of utilizing columnar spacers in place of spherical spacers. It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize columnar spacers

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rather than spherical spacers because Shohara et al. teach (column 11, line 55 through column 12, line 40) columnar spacers may be used in place of spherical spacers, the height or diameter of the spacer defines the space between the substrates.

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ishihara et al. (U.S. Patent No. 5,263,888)

Ishihara et al. discloses the invention substantially as claimed and rejected above, but does not disclose the method wherein the prediction of the optimum quantity of liquid crystals is carried out concurrently with a step of forming a main seal on either of the two substrates. The performance of two step simultaneously, which have previously been performed in sequence was held to have been obvious. *In re Tatincloux* 108 USPQ 125 (CCPA 1955). It would have been obvious to one of ordinary skill in the art at the time the invention was made to predict the optimum quantity of liquid crystal concurrently with the step of forming a main seal on either of the two substrates in order to increase throughput.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer M. Kennedy whose telephone number is (703) 308-6171. The examiner can normally be reached on Mon.-Fri. 8:30-5:00.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Niebling can be reached on (703) 308-3325. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7724 for regular communications and (703) 308-7722 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

jmk

jmk
February 19, 2003


John F. Niebling
Supervisory Patent Examiner
Technology Center 2800